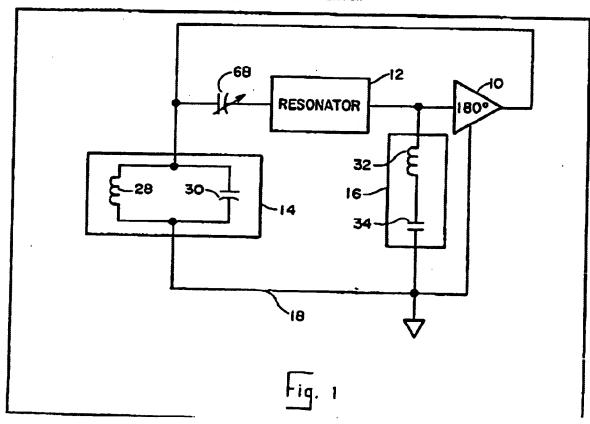
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 Company
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- (54) Oscillator mode suppression apparatus having bandpass effect
- (57) An apparatus utilizing the basic oscillation characteristics of the Colpitts or Pierce and Hartley oscillator configurations. In this embodiment the basic shunt reactive shunt arms (14, 16) are replaced with a selected pair of tank circuits or one of the shunt arms with a series or parallel tank circuit. These tank cir-

cuits are tuned such that the sign of their effective reactances are the same between the range of resonant frequencies of the individual tank circuits or of the series and parallel resonant frequencies of the series-parallel tank. When this occurs and their sign differs from the sign of the effective reactance of the series reactive element, there is an 180° signal phase shift in the feedback loop, and therefore oscillation. Resonator 12 is a crystal. Other examples of the shunt arms are described Figs. 3a–3e.



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